Title (en)

DETECTING CONGENITAL HEART DEFECTS

Title (de)

NACHWEIS VON KONGENITALEN HERZDEFEKTEN

Title (fr)

DÉTECTION DE CARDIOPATHIE CONGÉNITALE

Publication

EP 4065726 A4 20240403 (EN)

Application

EP 20893662 A 20201125

Priority

- US 201962941357 P 20191127
- US 2020062194 W 20201125

Abstract (en)

[origin: WO2021108525A1] The present disclosure describes a method of detecting, diagnosing, or predicting congenital heart defect (CHD). The method is a primarily minimally invasive method, as it uses a biological sample from a subject for detecting methylation changes in the nucleic acids of the subject. The method also involves the use of artificial intelligence (AI).

IPC 8 full level

C12Q 1/6883 (2018.01)

CPC (source: EP US)

C12Q 1/686 (2013.01 - US); **C12Q 1/6883** (2013.01 - EP US); C12Q 2600/154 (2013.01 - EP US)

Citation (search report)

- [A] US 2017166965 A1 20170615 - BAHADO-SINGH RAY O [US]
- [A] US 2018105807 A1 20180419 - LO YUK-MING DENNIS [CN], et al
- [A] BAHADO-SINGH R. ET AL: "Placental DNA methylation changes in detection of tetralogy of Fallot", ULTRASOUND IN OBSTETRICS AND GYNECOLOGY, vol. 55, no. 6, 12 April 2019 (2019-04-12), GB, pages 768 - 775, XP093107465, ISSN: 0960-7692, Retrieved from the Internet <URL:https://onlinelibrary.wiley.com/doi/full-xml/10.1002/uog.20292> DOI: 10.1002/uog.20292
- [A] AKBARIQOMI MOSTAFA ET AL: "Evaluation and statistical optimization of a method for methylated cell-free fetal DNA extraction from maternal plasma", JOURNAL OF ASSISTED REPRODUCTION AND GENETICS., vol. 36, no. 5, 1 May 2019 (2019-05-01), US, pages 1029 - 1038, XP093107258, ISSN: 1058-0468, DOI: 10.1007/s10815-019-01425-w
- [A] SERRA-JUHÉ CLARA ET AL: "DNA methylation abnormalities in congenital heart disease", EPIGENETICS, vol. 10, no. 2, 14 January 2015 (2015-01-14), US, pages 167 - 177, XP093107521, ISSN: 1559-2294, DOI: 10.1080/15592294.2014.998536
- [A] HATT LOTTE ET AL: "Microarray-Based Analysis of Methylation Status of CpGs in Placental DNA and Maternal Blood DNA - Potential New Epigenetic Biomarkers for Cell Free Fetal DNA-Based Diagnosis", PLOS ONE, vol. 10, no. 7, 1 January 2015 (2015-01-01), US, pages e0128918, XP093107577, ISSN: 1932-6203, DOI: 10.1371/journal.pone.0128918
- [A] WANG HONG-DAN ET AL: "Detection of fetal epigenetic biomarkers through genome-wide DNA methylation study for non-invasive prenatal diagnosis", MOLECULAR MEDICINE REPORTS, vol. 15, no. 6, 25 April 2017 (2017-04-25), GR, pages 3989 - 3998, XP093107531, ISSN: 1791-2997, DOI: 10.3892/mmr.2017.6506
- [XP] VISHWESWARAIAH SANGEETHA ET AL: "614: Artificial Intelligence and epigenomic analysis of cell-free fetal DNA for Congenital Heart Defect (CHD) detection", AMERICAN JOURNAL OF OBSTETRICS & GYNECOLOGY, MOSBY, ST LOUIS, MO, US, vol. 222, no. 1, 31 December 2019 (2019-12-31), XP086031996, ISSN: 0002-9378, [retrieved on 20191231], DOI: 10.1016/J.AJOG.2019.11.630
- See references of WO 2021108525A1

Designated contracting state (EPC)

AL AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HR HU IE IS IT LI LT LU LV MC MK MT NL NO PL PT RO RS SE SI SK SM TR

DOCDB simple family (publication)

WO 2021108525 A1 20210603; CN 115176320 A 20221011; EP 4065726 A1 20221005; EP 4065726 A4 20240403; US 2023002806 A1 20230105

DOCDB simple family (application)

US 2020062194 W 20201125; CN 202080094653 A 20201125; EP 20893662 A 20201125; US 202017756610 A 20201125